REMARKS

Claims 1-3, 6-9 and 11-27 are active in the present application.

Applicants wish to thank Examiner Kerr for the helpful and courteous discussion with their undersigned Representative on July 16, 2003. The content of this discussion is reflected in the amendments and remarks presented herein. Applicants would also like to thank Examiner Kerr for the indication that Claims 8 and 9 are free of the art of record (paper number 18, page 12, paragraph 19).

In view of the amendments submitted herein and the following remarks, favorable reconsideration and allowance of all pending claims is requested.

The rejection of Claims 1-3, 6-7, and 17-27 under 35 U.S.C. §112, first paragraph (enablement), is obviated in part by amendment and traversed in part.

Present Claim 1 (from which Claims 2-3, 6-7, and 17-27 depend) provides a method for producing L-glutamic acid by (a) mutating all or a portion of a chromosomal copy of a penicillin binding protein in a coryneform bacteria such that the penicillin binding protein is not produced or the function of a penicillin binding protein is reduced or eliminated in said coryneform bacteria; (b) transforming said coryneform bacteria with a DNA on a plasmid, encoding a functioning penicillin binding protein wherein said DNA comprises nucleotides 881 to 2623 of SEQ ID NO:1, or a DNA which is hybridizable with a nucleotide sequence comprising at least nucleotides 881 to 2623 of SEQ ID NO:1 under stringent conditions and which codes for a functioning penicillin binding protein, wherein the stringent conditions comprise washing at 60°C in 1 X SSC and 0.1% SDS, and wherein expression of said functioning penicillin binding protein is under the control of an inducible promoter; (c)

cultivating said coryneform bacteria in a liquid medium to produce and accumulate L-glutamic acid in the medium; and (d) collecting the L-glutamic acid.

It appears that the Examiner's rejection relates to the enablement of the limitation, which is presently presented as: "mutating all or a portion of a chromosomal copy of a penicillin binding protein in a coryneform bacteria such that the penicillin binding protein is not produced or the function of a penicillin binding protein is reduced or eliminated in said coryneform bacteria." The Examiner appears to have taken the position that a mutation that entails deletion of the penicillin binding protein (PBP) is enabled; however other forms of mutational events are not enabled since it would require undue experimentation, specifically because not working examples are provided.

However, MPEP §2164.02 states:

> The specification need not contain an example if the invention is otherwise disclosed in such manner that one skilled in the art will be able to practice it without an undue amount of experimentation.

Therefore, the lack of a working example to demonstrate each any every possible mutation by which the proteins' activities are reduced or eliminated, in and of itself, is not sufficient to support an enablement rejection, nor is the omission of a working example.

MPEP § 2164.01 states:

> The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation.

Applicants submit that the skilled artisan would readily appreciate methods for reducing or eliminating the function of a gene product, when the gene sequence is known, by modifying the gene by mutations beyond just deletion of the gene, such as by: substitution, insertion, addition, and/or inversion. In fact, the Examiner's apparent concern that a

painstakingly detailed disclosure of each and every substitution, insertion, addition, and/or inversion that meets the presently claimed invention is of no moment. Applicants wish to draw the Examiner's attention to MPEP §2164.05(a) states:

> The specification need not disclose what is well-known to those skilled in the art and preferably omits that which is well-known to those skilled and already available to the public...

As stated above, with the knowledge provided in the specification of the PBP gene sequence, it would be well known in the art how to mutate the PBP gene to reduce and/or eliminate chromosomal PBP gene-product activity. Therefore, there is no requirement that the artisan provide any further description. However, Applicants have provided such a disclosure at pages 23-26 of the present specification.

Moreover, Applicants have not stopped with a simple disclosure of the mutation events that may be employed to reduce and/or eliminate chromosomal PBP gene-product activity. The Examiner's attention is drawn to Example 2, appearing on page 31-32, which the artisan would appreciate can be used to ascertain whether the function of PBP has been reduced or eliminated. Accordingly, contrary to the assertion by the Examiner, Applicants have enabled mutations beyond deletion such that the artisan may practice the present invention without undue experimentation.

In view of the foregoing, Applicants request withdrawal of this ground of rejection.

The rejection of Claims 1, 6, 17-20, 23, and 25-27 under 35 U.S.C. §112, first paragraph (enablement), is obviated by amendment.

The basis for this rejection is that Applicants have not provided enablement for methods using coryneform bacteria without a functioning PBP at any temperature (paper number 18, page 12, paragraph 18(g)). Applicants note that the present amendment sets for

that the coryneform bacteria is transformed with a DNA encoding a functioning PBP, which is under the control of an inducible promoter.

Accordingly, it is submitted that the presently pending claims are free from the criticisms of this ground of rejection. Withdrawal of this ground of rejection is requested.

The rejections of Claims 2 and 21 under 35 U.S.C. §112, first paragraph (written description and enablement), are obviated by amendment.

The Examiner rejected these claims due to the implication that the temperature sensitivity is induced by a mutation "in" PBP. Applicants have amended Claim 2 to indicate that the temperature sensitivity arises due to "the expression of the functioning penicillin binding protein is under the control of a temperature sensitive replicon". In this respect, the Examiner's attention is drawn to pages 20-22 of the specification, which clearly sets forth and defines temperature sensitive replicons, method obtaining these replicons, and use thereof.

Accordingly, Applicants submit that this Claims 2 and 21 are fully enabled by the present specification and, as such, withdrawal of this ground of rejection is requested.

The rejection of Claims 1-3, 6-7, and 17-27 under 35 U.S.C. §112, second paragraph, is obviated by amendment.

As summarized in paragraph 18(b) on page 12 of paper number 18, this ground of rejection is predicated on the position that Claim 1 as previously presented is "wholly confusing." To address this ground of rejection, Applicants have rewritten Claim 1 to more particularly define the present invention. Applicants submit that, in view of the present amendment of Claim 1, Claims 1-3, 6-7, and 17-27 are definite within the context of 35 U.S.C. §112, second paragraph.

Withdrawal of this ground of rejection is requested.

The rejections of Claims 9, 12, 14, and 16 under 35 U.S.C. §112, second paragraph, and under 35 U.S.C. §112, first paragraph (written description), are obviated by amendment.

The Examiner has rejected these claims based on the recitation of the phrase "derived from". In the amendment presented herein, Applicants have deleted the objected to language from Claim 9 as kindly suggested by the Examiner in paper number 18, page 7, paragraph 13.

Applicants request withdrawal of these grounds of rejection.

The rejection of Claims 9, 11, 13, and 15 under 35 U.S.C. §112, second paragraph, is obviated by amendment.

The Examiner has rejected these claims based on the inadvertent recitation of the word "at" in item (a) of Claim 9. Consistent with the Examiner's indication, Applicants have deleted the objected to word from Claim 9.

Applicants request withdrawal of this ground of rejection.

The rejection of Claims 8-9 and 11-12 under 35 U.S.C. §101 as being drawn to non-statutory subject matter is obviated by amendment.

Applicants note that Claims 8 and 9 have been amended to recite "An isolated DNA..." thereby indicating the presence of the hand of man. Claims 11 and 12 depend from Claim 9; therefore, the amendment to Claim 9 would similarly obviate the rejection of these claims under 35 U.S.C. §101.

Applicants request withdrawal of this ground of rejection.

The objection to Claim 3 under 37 C.F.R. § 1.75(c) is obviated by appropriate amendment.

Applicants have amended Claim 3 to depend from Claim 1 instead of Claim 2. Applicants note that this amendment, in and of itself, would render this objection moot. Applicants further note that Claim 3 has also been amended to clarify the composition of the claimed plasmid, which comprises the DNA coding for the functioning penicillin binding protein, "further comprises a temperature sensitive replication control region".

As such, Applicants submit that this ground of objection should be withdrawn as Claim 3 is in full compliance with 37 C.F.R. § 1.75(c).

Applicants submit that the present application is now in condition for allowance. Early notification of such action is earnestly solicited.

Respectfully submitted,

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